**WHAT IS CLAIMED IS:**

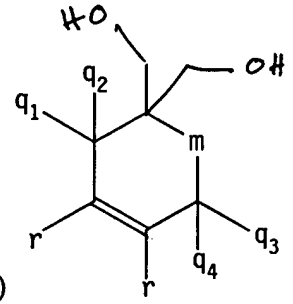
1. An oxygen barrier composition, comprising:

a oxygen barrier polymer, an oxygen scavenging polymer, and an oxidation catalyst.

2. The composition of claim1, wherein the composition has an oxygen transmission rate at least 5 times lower than that of the oxygen barrier polymer alone.

3. The composition of claim 1, wherein the oxygen barrier polymer is selected from poly(ethylene vinyl alcohol) (EVOH), polyacrylonitrile, a copolymer comprising acrylonitrile, poly(vinylidene dichloride) (PVDC), polyethylene terephthalate (PET), polyethylene napthalate (PEN), or polyamide other than MXD6.

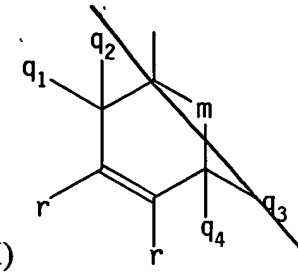
4. The composition of claim 1, wherein the oxygen scavenging polymer is selected from polyesters comprising monomers derived from structure II:




(II)

wherein $q_1$, $q_2$, $q_3$, $q_4$, and r are independently selected from hydrogen, methyl, or ethyl, m is $-(CH_2)_n-$, wherein n is an integer from 0 to 4, inclusive, and, when r is hydrogen, at least one of $q_1$, $q_2$, $q_3$, and $q_4$ is also hydrogen; polyesters comprising monomers derived from tetrahydrophthalic anhydride; unsaturated polyolefins; nylon MXD6; or polymers with an ethylenic backbone and at least one benzylic pendant group.

5. The composition of claim 1, wherein the oxygen scavenging polymer comprises a cycloalkenyl group having the structure I:

(I) 

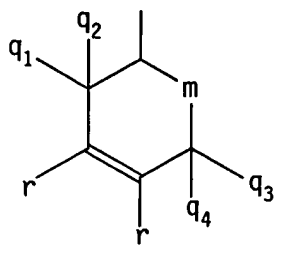
wherein $q_1$, $q_2$, $q_3$, $q_4$, and r are independently selected from hydrogen, methyl, or ethyl; m is $-(CH_2)_n-$, wherein n is an integer from 0 to 4, inclusive; and, when r is hydrogen, at least one of $q_1$, $q_2$, $q_3$, and $q_4$ is also hydrogen.

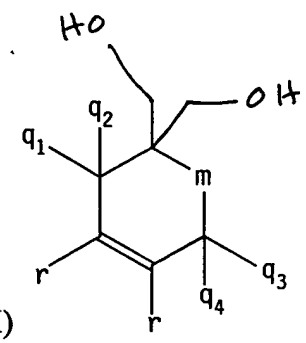
6. The composition of claim 5, wherein the oxygen scavenging polymer is selected from ethylene/methyl acrylate/cyclohexenylmethyl acrylate terpolymer (EMCM), ethylene/vinyl cyclohexene copolymer (EVCH), ethylene/cyclohexenylmethyl acrylate copolymer (ECHA), or cyclohexenylmethyl acrylate homopolymer (CHAA).

7. The composition of claim 1, further comprising a compatibilizer.

8. The composition of claim 7, wherein the compatibilizer is selected from anhydride-modified or acid-modified poly(ethylene acrylate), poly(ethylene vinyl acetate), or polyethylene; or maleic anhydride-modified EMCM.

9. The composition of claim 7, wherein the compatibilizer comprises a block copolymer of (i) EVOH, PVDC, PET, PEN, or polyamide other than MXD6 and (ii) a polymer comprising a cycloalkenyl group having the structure I, or comprising a monomer derived from structure II:

(I) 




(II)

wherein $q_1$, $q_2$, $q_3$, $q_4$, and r are independently selected from hydrogen, methyl, or ethyl; m is $-(CH_2)_n-$, wherein n is an integer from 0 to 4, inclusive; and, when r is hydrogen, at least one of $q_1$, $q_2$, $q_3$, and $q_4$ is also hydrogen.

10. The composition of claim 9, wherein the compatibilizer comprises a block copolymer of EVOH, PET, PVDC, PEN, or polyamide other than MXD6 with EMCM, ECHA, EVCH, or CHAA.

11. The composition of claim 1, wherein the oxygen scavenging polymer is present as an insoluble filler.

12. The composition of claim 1, wherein the oxidation catalyst comprises a transition metal selected from cobalt, copper, nickel, iron, manganese, rhodium, or ruthenium.

13. The composition of claim 12, wherein the oxidation catalyst is a salt comprising a counterion selected from $C_1$-$C_{20}$ alkanoates.

14. The composition of claim 13, wherein the transition metal salt is cobalt oleate, cobalt stearate, or cobalt neodecanoate.

15. The composition of claim 1, further comprising a photoinitiator.

16. The composition of claim 15, wherein the photoinitiator is selected from benzophenone derivatives containing at least two benzophenone moieties and having the formula:

$A_a(B)_b$

wherein

A is a bridging group selected from sulfur; oxygen; carbonyl; -SiR"$_2$-, wherein each R" is individually selected from alkyl groups containing from 1 to 12 carbon atoms, aryl groups containing 6 to 12 carbon atoms, or alkoxy groups containing from 1 to 12 carbon atoms; -NR"'-, wherein R"' is an alkyl group containing 1 to 12 carbon atoms, an aryl group containing 6 to 12 carbon atoms, or hydrogen; or an organic group containing from 1 to 50 carbon atoms;

a is an integer from 0 to 11;

B is a substituted or unsubstituted benzophenone group; and

b is an integer from 2 to 12.

17. The composition of claim 16, wherein the photoinitiator is selected from dibenzoyl biphenyl, substituted dibenzoyl biphenyl, benzoylated terphenyl, substituted benzoylated terphenyl, tribenzoyl triphenylbenzene, substituted tribenzoyl triphenylbenzene, benzoylated styrene oligomer, or substituted benzoylated styrene oligomer.

18. The composition of claim 1, further comprising an antioxidant.

19. The composition of claim 18, wherein the antioxidant is selected from 2,6-di(t-butyl)-4-methylphenol(BHT), 2,2'-methylene-bis(6-t-butyl-p-cresol), triphenylphosphite, tris-(nonylphenyl)phosphite, vitamin E, tetra-bismethylene 3-(3,5-ditertbutyl-4-hydroxyphenyl)-propionate methane, or dilaurylthiodipropionate.

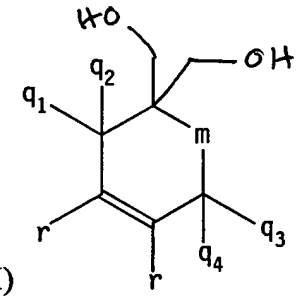
20. A packaging article, comprising:

at least one oxygen barrier layer comprising an oxygen barrier polymer and an oxygen scavenging polymer.

21. The packaging article of claim 20, wherein the packaging article consists essentially of a single layer.

22. The packaging article of claim 20, wherein the oxygen barrier layer comprises poly(ethylene vinyl alcohol) (EVOH), polyacrylonitrile, a copolymer comprising acrylonitrile, poly(vinylidene dichloride) (PVDC), polyethylene terephthalate (PET), polyethylene napthalate, or polyamide other than MXD6.

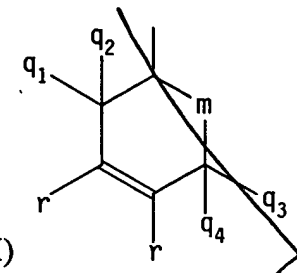
23. The packaging article of claim 20, wherein the oxygen scavenging polymer is selected from wherein the oxygen scavenging polymer is selected from polyesters comprising monomers derived from structure II:




(II)

wherein $q_1$, $q_2$, $q_3$, $q_4$, and r are independently selected from hydrogen, methyl, or ethyl, m is $-(CH_2)_n-$, wherein n is an integer from 0 to 4, inclusive, and, when r is hydrogen, at least one of $q_1$, $q_2$, $q_3$, and $q_4$ is also hydrogen; polyesters comprising monomers derived from tetrahydrophthalic anhydride; unsaturated polyolefins; nylon MXD6; or polymers with an ethylenic backbone and at least one benzylic pendant group.

24. The packaging article of claim 20, wherein the oxygen scavenging polymer comprises an ethylenic backbone and a cycloalkenyl group having the structure I:

(I) 

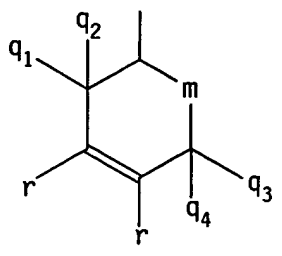
wherein $q_1$, $q_2$, $q_3$, $q_4$, and r are independently selected from hydrogen, methyl, or ethyl; m is $-(CH_2)_n-$, wherein n is an integer from 0 to 4, inclusive; and, when r is hydrogen, at least one of $q_1$, $q_2$, $q_3$, and $q_4$ is also hydrogen.

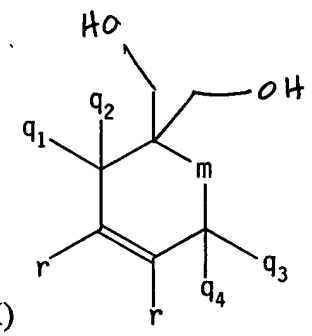
25. The packaging article of claim 24, wherein the oxygen scavenging polymer is selected from ethylene/methyl acrylate/cyclohexenylmethyl acrylate terpolymer (EMCM), ethylene/vinyl cyclohexene copolymer (EVCH), ethylene/cyclohexenylmethyl acrylate copolymer (ECHA), or cyclohexenylmethyl acrylate homopolymer (CHAA).

26. The packaging article of claim 20, wherein the oxygen barrier layer further comprises a compatibilizer.

27. The packaging article of claim 26, wherein the compatibilizer is selected from anhydride-modified or acid-modified poly(ethylene acrylate), poly(ethylene vinyl acetate), or polyethylene; or maleic anhydride (MAH)-modified EMCM.

28. The packaging article of claim 26, wherein the compatibilizer comprises a block copolymer of (i) EVOH, PVDC, PET, polyethylene napthalate, or polyamide other than MXD6 and (ii) a polymer comprising a cycloalkenyl group having the structure I, or comprising a monomer derived from structure II:

(I) 




(II)

wherein $q_1$, $q_2$, $q_3$, $q_4$, and r are independently selected from hydrogen, methyl, or ethyl; m is $-(CH_2)_n-$, wherein n is an integer from 0 to 4, inclusive; and, when r is hydrogen, at least one of $q_1$, $q_2$, $q_3$, and $q_4$ is also hydrogen.

29. The packaging article of claim 28, wherein the compatibilizer comprises a block copolymer of EVOH, PET, PVDC, polyethylene naphthalate, or polyamide other than MXD6 with EMCM, ECHA, EVCH, or CHAA.

30. The packaging article of claim 20, wherein the oxygen scavenging polymer is present in the oxygen barrier layer as an insoluble filler.

31. The packaging article of claim 20, further comprising a transition metal salt in the oxygen barrier layer or a layer adjacent to the oxygen barrier layer.

32. The packaging article of claim 31, wherein the transition metal is selected from cobalt, copper, nickel, iron, manganese, rhodium, or ruthenium.

33. The packaging article of claim 32, wherein the transition metal salt comprises a counterion selected from $C_1$-$C_{20}$ alkanoates.

34. The packaging article of claim 33, wherein the transition metal salt is cobalt oleate, cobalt stearate, or cobalt neodecanoate.

35. The packaging article of claim 20, further comprising a photoinitiator in the oxygen barrier layer.

36. The packaging article of claim 35, wherein the photoinitiator is selected from benzophenone derivatives containing at least two benzophenone moieties and having the formula:

$$A_a(B)_b$$

wherein

A is a bridging group selected from sulfur; oxygen; carbonyl; -SiR"2-, wherein each R" is individually selected from alkyl groups containing from 1 to 12 carbon atoms, aryl groups containing 6 to 12 carbon atoms, or alkoxy groups containing from 1 to 12 carbon atoms; -NR"'-, wherein R"' is an alkyl group containing 1 to 12 carbon atoms, an aryl group containing 6 to 12 carbon atoms, or hydrogen; or an organic group containing from 1 to 50 carbon atoms;

a is an integer from 0 to 11;

B is a substituted or unsubstituted benzophenone group; and

b is an integer from 2 to 12.

37. The packaging article of claim 36, wherein the photoinitiator is selected from dibenzoyl biphenyl, substituted dibenzoyl biphenyl, benzoylated terphenyl, substituted benzoylated terphenyl, tribenzoyl triphenylbenzene, substituted tribenzoyl triphenylbenzene, benzoylated styrene oligomer, or substituted benzoylated styrene oligomer.

38. The packaging article of claim 20, further comprising an antioxidant in the oxygen barrier layer.

39. The packaging article of claim 38, wherein the antioxidant is selected from 2,6-di(t-butyl)-4-methylphenol(BHT), 2,2'-methylene-bis(6-t-butyl-p-cresol), triphenylphosphite, tris-(nonylphenyl)phosphite, vitamin E, tetra-bismethylene 3-(3,5-ditertbutyl-4-hydroxyphenyl)-propionate methane, or dilaurylthiodipropionate.

40. The packaging article of claim 20, further comprising an oxygen barrier layer, wherein the oxygen barrier layer does not comprise an oxygen scavenging polymer.

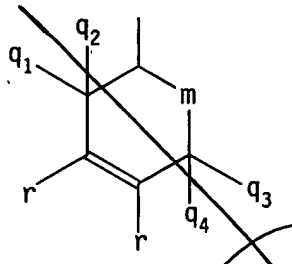
41. The packaging article of claim 40, wherein the oxygen barrier layer not comprising an oxygen scavenging polymer comprises poly(ethylene vinyl alcohol) (EVOH), polyacrylonitrile (PAN), a copolymer comprising acrylonitrile, poly(vinylidene dichloride) (PVDC), polyethylene terephthalate (PET), polyethylene napthalate (PEN), or polyamide other than MXD6.

42. The packaging article of claim 20, further comprising a structural layer.

43. The packaging article of claim 42, wherein the structural layer comprises PET, polyamide, polypropylene, polyethylene, low density polyethylene, very low density polyethylene, ultra-low density polyethylene, high density polyethylene, polyvinyl chloride, ethylene-vinyl acetate, ethylene-alkyl (meth)acrylates, ethylene-(meth)acrylic acid, ethylene-(meth)acrylic acid ionomers, paperboard, or cardboard.

44. The packaging article of claim 20, further comprising an oxygen scavenging layer.

45. The packaging article of claim 44, wherein the oxygen scavenging layer comprises an oxygen scavenging polymer comprising an ethylenic backbone and a cycloalkenyl group with structure I:

(I) 

wherein $q_1$, $q_2$, $q_3$, $q_4$, and r are independently selected from hydrogen, methyl, or ethyl; m is $-(CH_2)_n-$, wherein n is an integer from 0 to 4, inclusive; and, when r is hydrogen, at least one of $q_1$, $q_2$, $q_3$, and $q_4$ is also hydrogen.

46. The packaging article of claim 45, wherein the oxygen scavenging polymer in the oxygen scavenging layer is selected from ethylene/methyl acrylate/cyclohexenylmethyl acrylate terpolymer (EMCM), ethylene/vinyl cyclohexene copolymer (EVCH), ethylene/cyclohexenylmethyl acrylate copolymer (ECHA), or cyclohexenylmethyl acrylate homopolymer (CHAA).

47. The packaging article of claim 45, wherein the oxygen scavenging layer is a liner, coating, sealant, gasket, adhesive, non-adhesive insert, or fibrous mat insert in the packaging article.

48. The packaging article of claim 20, wherein the packaging article is in the form of a single layer flexible article, a multilayer flexible article, a single layer rigid article, or a multilayer rigid article.

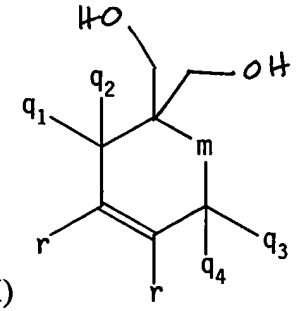
49. A method of making an oxygen barrier composition comprising an oxygen barrier polymer and an oxygen scavenging polymer, comprising:

providing the oxygen barrier polymer and the oxygen scavenging polymer; and

blending the oxygen barrier polymer and the oxygen scavenging polymer to form the oxygen barrier composition.

50. The method of claim 49, wherein the oxygen barrier polymer is selected from poly(ethylene vinyl alcohol) (EVOH), polyacrylonitrile (PAN), a copolymer comprising acrylonitrile, poly(vinylidene dichloride) (PVDC), polyethylene terephthalate (PET), polyethylene napthalate, or polyamide other than MXD6.

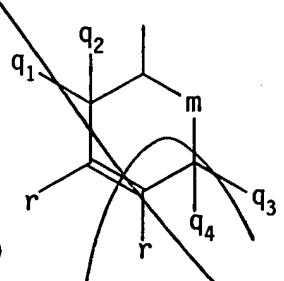
51. The method of claim 49, wherein the oxygen scavenging polymer is selected from polyesters comprising monomers derived from structure II:




(II)

wherein $q_1$, $q_2$, $q_3$, $q_4$, and r are independently selected from hydrogen, methyl, or ethyl, m is $-(CH_2)_n-$, wherein n is an integer from 0 to 4, inclusive, and, when r is hydrogen, at least one of $q_1$, $q_2$, $q_3$, and $q_4$ is also hydrogen; polyesters comprising monomers derived from tetrahydrophthalic anhydride; unsaturated polyolefins; nylon MXD6; or polymers with an ethylenic backbone and at least one benzylic pendant group.

52. The method of claim 49, wherein the oxygen scavenging polymer comprises an ethylenic backbone and a cycloalkenyl group having the structure I:




(I)

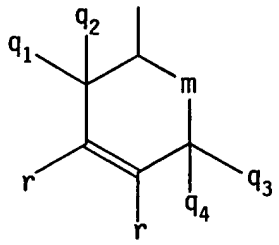
wherein $q_1$, $q_2$, $q_3$, $q_4$, and r are independently selected from hydrogen, methyl, or ethyl; m is $-(CH_2)_n-$, wherein n is an integer from 0 to 4, inclusive; and, when r is hydrogen, at least one of $q_1$, $q_2$, $q_3$, and $q_4$ is also hydrogen.

53. The method of claim 52, wherein the oxygen scavenging polymer is selected from ethylene/methyl acrylate/cyclohexenylmethyl acrylate terpolymer (EMCM), ethylene/vinyl cyclohexene copolymer (EVCH), ethylene/cyclohexenylmethyl acrylate copolymer (ECHA), or cyclohexenylmethyl acrylate homopolymer (CHAA).

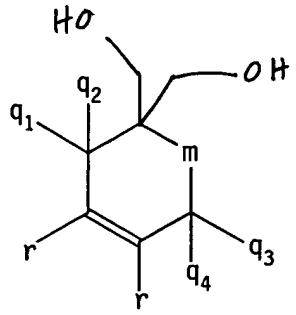
54. The method of claim 49, wherein the blending step further comprises blending a compatibilizer with the oxygen barrier polymer and the oxygen scavenging polymer.

55. The method of claim 54, wherein the compatibilizer is selected from anhydride-modified or acid-modified poly(ethylene acrylate), poly(ethylene vinyl acetate), or polyethylene; or MAH-modified EMCM.

56. The method of claim 54, wherein the compatibilizer comprises a block copolymer of (i) EVOH, PVDC, PET, polyethylene napthalate, or polyamide other than MXD6 and (ii) a polymer comprising a cycloalkenyl group having the structure I, or comprising a monomer derived from structure II:




(I)




(II)

wherein $q_1$, $q_2$, $q_3$, $q_4$, and r are independently selected from hydrogen, methyl, or ethyl; m is $-(CH_2)_n-$, wherein n is an integer from 0 to 4, inclusive; and, when r is hydrogen, at least one of $q_1$, $q_2$, $q_3$, and $q_4$ is also hydrogen.

57. The method of claim 56, wherein the compatibilizer is a block copolymer of EVOH, PET, PVDC, polyethylene napthalate, or polyamide other than MXD6 with EMCM, ECHA, EVCH, or CHAA.

58. The method of claim 49, wherein the blending occurs during a reactive extrusion.

59. A method of making an oxygen barrier composition comprising an oxygen barrier polymer and an oxygen scavenging polymer, wherein the oxygen scavenging polymer is present as an insoluble filler, comprising:

providing the oxygen barrier polymer and the oxygen scavenging polymer;

cross-linking the oxygen scavenging polymer with itself, to form an insoluble oxygen scavenging polymer; and

mixing the oxygen barrier polymer and the insoluble oxygen scavenging polymer, to form the oxygen barrier composition.

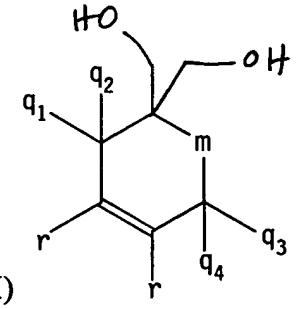
60. A method of forming an oxygen barrier layer in a packaging article, comprising:

providing an oxygen barrier composition comprising an oxygen barrier polymer and an oxygen scavenging polymer; and

forming the composition into the packaging article or an oxygen barrier layer thereof.

61. The method of claim 60, wherein the oxygen barrier polymer is selected from poly(ethylene vinyl alcohol) (EVOH), polyacrylonitrile, a copolymer comprising acrylonitrile, poly(vinylidene dichloride) (PVDC), polyethylene terephthalate (PET), polyethylene napthalate, or polyamide other than MXD6.

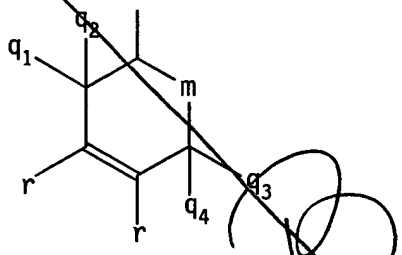
62. The method of claim 60, wherein the oxygen scavenging polymer is selected from polyesters comprising monomers derived from structure II:




(II)

wherein $q_1$, $q_2$, $q_3$, $q_4$, and r are independently selected from hydrogen, methyl, or ethyl, m is $-(CH_2)_n-$, wherein n is an integer from 0 to 4, inclusive, and, when r is hydrogen, at least one of $q_1$, $q_2$, $q_3$, and $q_4$ is also hydrogen; polyesters comprising monomers derived from tetrahydrophthalic anhydride; unsaturated polyolefins; nylon MXD6; or polymers with an ethylenic backbone and at least one benzylic pendant group.

63. The method of claim 60, wherein the oxygen scavenging polymer comprises an ethylenic backbone and a cycloalkenyl group having the structure I:




(I)

wherein $q_1$, $q_2$, $q_3$, $q_4$, and r are independently selected from hydrogen, methyl, or ethyl; m is $-(CH_2)_n-$, wherein n is an integer from 0 to 4, inclusive; and, when r is hydrogen, at least one of $q_1$, $q_2$, $q_3$, and $q_4$ is also hydrogen.

64. The method of claim 63, wherein the oxygen scavenging polymer is selected from ethylene/methyl acrylate/cyclohexenylmethyl acrylate terpolymer (EMCM), ethylene/vinyl cyclohexene copolymer (EVCH), ethylene/cyclohexenylmethyl acrylate copolymer (ECHA), or cyclohexenylmethyl acrylate homopolymer (CHAA).

65. The method of claim 60, wherein the forming step comprises forming a transition metal salt into the oxygen barrier layer or a layer adjacent to the oxygen barrier layer of the packaging article.

66. The method of claim 60, wherein the oxygen barrier layer further comprises a photoinitiator.

67. The method of claim 60, wherein the oxygen barrier layer further comprises an antioxidant.

68. The method of claim 60, wherein the forming step further comprises forming an oxygen barrier layer in the packaging article, wherein the oxygen barrier layer does not comprise an oxygen scavenging polymer.

69. The method of claim 60, wherein the forming step further comprises forming a structural layer in the packaging article.

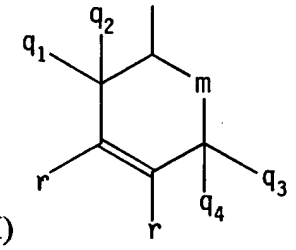
70. The method of claim 60, wherein the forming step further comprises forming an oxygen scavenging layer in the packaging article.

71. The method of claim 60, wherein the forming step further comprises forming the packaging article as a single layer flexible article, a multilayer flexible article, a single layer rigid article, or a multilayer rigid article.

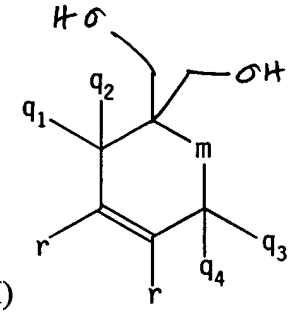
72. The method of claim 60, wherein the oxygen barrier composition further comprises a compatibilizer.

73. The method of claim 72, wherein the compatibilizer is selected from anhydride-modified or acid-modified poly(ethylene acrylate), poly(ethylene vinyl acetate), or polyethylene; or MAH-modified EMCM.

74. The method of claim 72, wherein the compatibilizer comprises a block copolymer of (i) EVOH, PET, polyethylene napthalate, or polyamide other than MXD6 and (ii) a polymer comprising a cycloalkenyl group having the structure I, or comprising a monomer derived from structure II:




(I)




(II)

wherein $q_1$, $q_2$, $q_3$, $q_4$, and r are independently selected from hydrogen, methyl, or ethyl; m is $-(CH_2)_n-$, wherein n is an integer from 0 to 4, inclusive; and, when r is hydrogen, at least one of $q_1$, $q_2$, $q_3$, and $q_4$ is also hydrogen.

75. The method of claim 74, wherein the compatibilizer is a block copolymer of EVOH, PET, polyethylene napthalate, or polyamide other than MXD6 with EMCM, EVCH, or CHAA.

76. The method of claim 72, wherein the compatibilizer is formed by reactive extrusion of monomers.

77. The method of claim 74, wherein the compatibilizer is formed by adding monomers comprising the ethylenic backbone and the cycloalkenyl group to a polymer of EVOH, PET, PVDC, polyethylene napthalate, or polyamide other than MXD6.

78. The method of claim 60, wherein the oxygen scavenging polymer is present in the oxygen barrier composition as an insoluble filler.